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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/782,134	02/18/2004	John Santhoff	048CIP-120	5198
44279	7590	02/06/2006	EXAMINER	
PULSE-LINK, INC. 1969 KELLOGG AVENUE CARLSBAD, CA 92008			YAO, KWANG BIN	
			ART UNIT	PAPER NUMBER
			2667	

DATE MAILED: 02/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/782,134	<b>Applicant(s)</b> SANTHOFF ET AL.	
	<b>Examiner</b> Kwang B. Yao	<b>Art Unit</b> 2667	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 November 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 1-6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/18/05</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the claimed features of “pseudo-random method”, “spectral line”, “pseudo-random timing sequence”, “time bins” must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 7-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fullerton (US 2003/0189975) in view of Padovani et al. (US 5,535,239).

Fullerton discloses a communication system comprising the following features: regarding claim 7, an ultra-wideband communication method; regarding claim 16, an ultra-wideband communication method; regarding claim 17, an ultra-wideband communication device. See Abstract.

Fullerton does not disclose the following features: the method comprising the steps of: regarding claim 7, generating a first data frame, constructed to transmit data at a first data rate; generating a second data frame, constructed to transmit data at a second data rate; and transmitting both the first and second data frames in a pseudo-random method; regarding claim 8, wherein the pseudo-random method comprises transmitting the first and second data frames so as to substantially avoid generating a spectral line; regarding claim 9, wherein the pseudo-random method comprises transmitting the first and second data frames by using a pseudo-random timing sequence; regarding claim 10, wherein the first and second data frames each comprise a plurality of time bins, with each time bin capable of receiving an ultra-wideband pulse; regarding claim 11, wherein the first data frame transmits data at a rate that ranges between about one kilobit per second to about five megabits per second; regarding claim 12, wherein the second data frame transmits data at a rate that ranges between about five megabits

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per second to about one gigabit per second; regarding claim 13, wherein the second data frame transmits data at a rate selected from a group consisting of: a 25 megabit per second rate, a 50 megabit per second rate, a 100 megabit per second rate, a 200 megabit per second rate, a 400 megabit per second rate, a 480 megabit per second rate, a 500 megabit per second rate, and a one gigabit per second rate; regarding claim 14, wherein the first and second data frames each comprise a time duration that may range from about one microsecond to about one millisecond; regarding claim 15, wherein the first and second data frames each comprise a plurality of time bins, with each time bin capable of receiving an ultra-wideband pulse, wherein the ultra-wideband pulse may range in duration from about 10 picoseconds to about one nanosecond; regarding claim 16, the method comprising the steps of: means for generating a first data frame, constructed to transmit data at a first data rate; means for generating a second data frame, constructed to transmit data at a second data rate; and means for transmitting both the first and second data frames in a pseudo-random method; regarding claim 17, comprising: a transceiver structured to communicate at a first data rate; and a transmitter structured to transmit at a second data rate that is greater than the first data rate; regarding claim 18, wherein the transceiver communicates by receiving and transmitting at the first data rate, and the transmitter transmits at the second data rate; regarding claim 19, wherein the first data rate transmits data at a rate that ranges between about 1 kilobit per second to about 5 megabits per second; regarding claim 20, wherein the second data rate transmits data at a rate that ranges between about 5 megabits per second to about 1 gigabit per second.

Padovani et al. discloses a communication system comprising the following features:  
regarding claim 7, generating a first data frame (Figs. 2a-h; Figs. 10a-d), constructed to transmit

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data at a first data rate (Figs. 10a-d); generating a second data frame (Figs. 2a-h; Figs. 10a-d), constructed to transmit data at a second data rate (Figs. 10a-d); and transmitting both the first and second data frame (Figs. 2a-h; Figs. 10a-d)s in a pseudo-random (Fig. 1, DATA BURST RANDOMIZER LOGIC 46; column 16, lines 50-63; column 34, lines 43-55) method; regarding claim 8, wherein the pseudo-random (Fig. 1, DATA BURST RANDOMIZER LOGIC 46; column 16, lines 50-63; column 34, lines 43-55) method comprises transmitting the first and second data frame (Figs. 2a-h; Figs. 10a-d)s so as to substantially avoid generating a spectral line; regarding claim 9, wherein the pseudo-random (Fig. 1, DATA BURST RANDOMIZER LOGIC 46; column 16, lines 50-63; column 34, lines 43-55) method comprises transmitting the first and second data frame (Figs. 2a-h; Figs. 10a-d)s by using a pseudo-random (Fig. 1, DATA BURST RANDOMIZER LOGIC 46; column 16, lines 50-63; column 34, lines 43-55) timing sequence; regarding claim 10, wherein the first and second data frame (Figs. 2a-h; Figs. 10a-d)s each comprise a plurality of time bins, with each time bin capable of receiving an ultra-wideband pulse (Fig. 12); regarding claim 15, wherein the first and second data frame (Figs. 2a-h; Figs. 10a-d)s each comprise a plurality of time bins, with each time bin capable of receiving an ultra-wideband pulse (Fig. 12); regarding claim 16, the method comprising the steps of: means for generating a first data frame (Figs. 2a-h; Figs. 10a-d), constructed to transmit data at a first data rate (Figs. 10a-d); means for generating a second data frame (Figs. 2a-h; Figs. 10a-d), constructed to transmit data at a second data rate (Figs. 10a-d); and means for transmitting both the first and second data frame (Figs. 2a-h; Figs. 10a-d)s in a pseudo-random (Fig. 1, DATA BURST RANDOMIZER LOGIC 46; column 16, lines 50-63; column 34, lines 43-55) method; regarding claim 17, comprising: a transceiver structured to communicate at a first data rate (Figs.

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10a-d); and a transmitter structured to transmit at a second data rate (Figs. 10a-d) that is greater than the first data rate (Figs. 10a-d); regarding claim 18, wherein the transceiver communicates by receiving and transmitting at the first data rate (Figs. 10a-d), and the transmitter transmits at the second data rate (Figs. 10a-d). It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Fullerton by using the features, as taught by Padovani et al, in order to provide an efficient data communication system by reducing within transmission data frames of various users the occurrence of unnecessary instances of contemporaneous transmission of data so as to reduce system wide traffic loading in data transmission. See Padovani et al., column 2, lines 45-48.

Regarding claims 11, 12, 13, 14, 15, 19, 20, Fullerton and Padovani et al. do not disclose the specific data rate and time duration. However, it would have been obvious to one of the ordinary skill in the art to implement any bit locations in a burst as a design choice based upon the arrangement specification and requirement for users.

#### ***Response to Arguments***

4. Applicant's arguments filed 11/18/05 have been fully considered but they are not persuasive.

On page 8, Applicant argues that the objection on drawings should be withdrawn. Examiner disagrees with this argument. Regarding M.P.E.P, 37 CFR 1.83(a), the drawings must show every feature of the invention specified in the claims.

On page 12, Applicant argues that ultra-wideband communications, as taught in Fullerton, and conventional carrier wave communications, as taught in Padovani et al., are

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completely different technologies that operate in a fundamentally different manner, and thus there is no motivation to combine these reference. Examiner disagrees with these arguments. It is noted that the references of Fullerton and Padovani et al. are analogous art, and they are in the same field of endeavor of wireless communications. It is recognized that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation is found in the secondary reference Padovani et al., column 2, lines 45-48.

On pages 12, fifth paragraph, and page 13, first paragraph, Applicant argues that the technologies employed by Fullerton and Padovani et al. are not combinable; and there is no suggestion or motivation to combined these references. It is noted that the references of Fullerton and Padovani et al. are analogous art, and they are in the same field of endeavor of wireless communications. It is recognized that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation is found in the secondary reference Padovani et al., column 2, lines 45-48.



***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

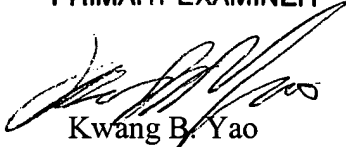
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kwang B. Yao whose telephone number is 571-272-3182. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi H. Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**KWANG BIN YAO**  
**PRIMARY EXAMINER**

A handwritten signature in black ink, appearing to read 'Kwang B. Yao', is written over the printed name.

Kwang B. Yao  
February 1, 2006